

REMARKS

By the present amendment, claim 1 has been amended to correct the range “from 63 to 120 seconds” to “from 63 to 130 seconds.” Support for the added recitations is found in the original application, for example, at least on page 36, lines 3 and 13.

New claims 35-36 have been added. Support for the added recitations is found in the original application, for example, at least on page 5, line 35 and page 6, lines 24, and examples 2 and 3 (pages 35-36), respectively.

Claims 1, 8-9, 11-18, and 34-36 are pending in the present application. Claim 1 is the only independent claim.

I. New matter rejection

In the Office Action, claims 33-34 are rejected under 35 U.S.C. 112, first paragraph, as lacking written description by introduction new matter. It is alleged in the Office Action that the time periods 20 to 120 seconds and 33 to 120 seconds are not supported in the original application.

Reconsideration and withdrawal of the rejection is respectfully requested. In the Amendment of April 20, 2009, reference was made to page 5, line 35 and page 6, line 24.

As to period (a), the passage at page 5, lines 35 discloses ranges from 1.2 to 9 seconds as recited in present claim 33, and from 2.5 to 7 seconds as recited in present claim 34. Period (a) is determined appropriately at least according to the disclosure at page 5, line 37.

As to period (b), the passage at page 6, line 24 discloses 20 to 100 seconds and 33 to 80 seconds. Since the main period of 13 to 120 was already recited in claim 1 as also disclosed at

page 6, line 23, the person of the art understands immediately that the present application discloses ranges from 20 to 120 seconds as recited in claim 33 and from 33 to 120 seconds as recited in claim 34. Period (b) is determined appropriately at least according to the disclosure at page 6, line 30.

In view of the above, it is submitted that the rejection should be withdrawn.

II. Art rejections

In the Office Action the following rejections made in the previous Office Action are repeated and extended to new claims 32-34:

- Claims 1, 8, 14-17 and 31-34 are rejected under 35 U.S.C. 103(a) as obvious over Ikemoto et al., JP10-153709A (“Ikemoto”),
- Claim 9 is rejected under 35 U.S.C. 103(a) as obvious over Ikemoto in view of Sanefuji et al., US2002/0001700A1 (“Sanefuji”),
- Claim 11 is rejected under 35 U.S.C. 103(a) as obvious over Ikemoto in view of Harita et al., US2001/0024322A1 (“Harita”),
- Claim 12 is rejected under 35 U.S.C. 103(a) as obvious over Ikemoto in view of Burger, US3,492,185 (“Burger”),
- Claim 13 is rejected under 35 U.S.C. 103(a) as obvious over Ikemoto in view of Kondo, JP2000-147252 (“Kondo”), and
- Claim 18 is rejected under 35 U.S.C. 103(a) as obvious over Ikemoto et al. in view of US5,071,906 to Tanaka et al. (“Tanaka”).

It is alleged in the Office Action that Ikemoto teaches the method of claim 1 except that Ikemoto “doesn’t explicitly teach” the feature “within a time up to when swelling reaches the saturation state,” but that Ikemoto concerns polarization films that are “wrinkle free” and describes “general problems involved with swelling and the transport of swelled films, as well as a range of film submergence,” so that this feature is an obvious optimization (see Office Action at page 3).

Further, it is alleged that the showing of unexpected results (in the Declaration submitted with the last response) is insufficient.

Reconsideration and withdrawal of the rejections is respectfully requested. It is submitted that Ikemoto does not provide any motivation, guidance, or incentive to focus on the swelling process in early stages of the dipping time, let alone on a length of time up to contact with a first roll (see section (A) below). Further, it is submitted that any prima facie obviousness (which is denied) would be rebutted by the evidence of unexpected results (see section (B) below).

A. Ikemoto does not lead to any prima facie obviousness

1. Ikemoto addresses a different swelling problem, i.e., total swelling time

As a preliminary, it is submitted that Ikemoto focuses on “excessive swelling” during a total dipping time, as mentioned at paragraphs 0007-0009 of Ikemoto. Total dipping time is at least 4 to 6 minutes in Ikemoto.

In contrast, the present invention focuses on “abrupt swelling that occurs within 15 seconds to 25 seconds” (see page 3, lines 3-12 of the present specification). This abrupt swelling

is completely different from the issue of an overall swelling during the whole dipping time, except that they both relate to “swelling.”

In particular, Ikemoto does not provide any guidance or information regarding an abrupt swelling a few seconds after dipping, let alone any guidance or information making a link between potential imperfections in the finished product and the occurrence of this abrupt swelling at the early time of the dipping process, and let alone any guidance or suggestion to address this potential problem.

Therefore, the person of ordinary skill in the art would not have found any motivation or incentive in Ikemoto to focus on the early time of the dipping process, so that that person would not have had an opportunity to notice an early abrupt swelling, nor to make a link with potential detrimental consequences of this abrupt swelling, nor to attempt to develop a process that addresses these potential detriments.

2. Ikemoto only teaches a total swelling time of 4 to 6 minutes

It is submitted that Ikemoto mentions a swelling time of 4 to 6 minutes because Ikemoto is concerned about preventing excessive swelling, so that Ikemoto has determined that a swelling time of 4 to 6 minutes is appropriate to avoid excessive swelling.

A swelling bath is intended to allow a PVA film to swell sufficiently so that dyeing in a dyebath in a subsequent step could be performed uniformly. Ikemoto explains that, when the degree of swelling of a PVA film decreases, the dye affinity of the PVA film deteriorates, which results in turn in a deterioration of the polarization characteristics of a resulting polarizing film (see paragraph 0013 of Ikemoto).

Based on this common technical knowledge, further established by Ikemoto, a person of ordinary skill in the art would not have had any motivation or incentive to attempt to blindly reduce the swelling time indicated in Ikemoto, because that person would have known that reducing a swelling time would lead to a decrease in the degree of swelling of the PVA film, as commonly known in the art and as advised by Ikemoto.

Therefore, it is submitted that a person of ordinary skill in the art would not have attempted to further reduce the swelling time optimized by Ikemoto for the prevention of excessive swelling. Rather, that person would have followed Ikemoto's recommendation of a total swelling time of 4 to 6 minutes, without any motivation or incentive to further study an early swelling.

3. Figure 1 of Ikemoto suggests a long time up to the first roll and between first and second rolls

It is submitted that Ikemoto, in addition to teaching a total dipping time of 4 to 6 minutes, is completely silent regarding dipping time up to the first roll. Thus, even if, arguendo, a person of ordinary skill in the art had attempted to study the dipping time up to the first roll and/or its link with product performance (which is denied, as explained above), that person would not have found any motivation or incentive to modify the dipping time up to the first roll.

Looking at Figure 1 of Ikemoto, even though this figure is extremely diagrammatic, it can be presumed that if a total swelling time is 4 to 6 minutes, then the length of time up to the time when a PVA film is brought into contact with the first roll is about from 1 minute and 20 seconds to 2 minutes. Thus, Figure 1 of Ikemoto suggests, if anything, a length of time that is

considerably longer than the length of time (a) of from 0.6 to 12 seconds as in the presently claimed invention.

Further, it can be presumed from Fig. 1 of Ikemoto that a length of time up to the time when the PVA film is brought into contact with the second roll is about from 2 minutes and 40 seconds to 4 minutes. This is also considerably long, as compared with the length of time (b) of from 13 to 120 seconds described in the presently claimed invention.

Conclusion: no prima facie obviousness

In summary, Ikemoto does not provide any motivation or incentive to further reduce swelling time beyond the range optimized by Ikemoto. Thus, even if, arguendo, a person of the art had attempted to further reduce a swelling time to 3 minutes, 2 minutes, or 1 minute (which is denied, because that person would be expecting that polarization characteristics of a polarizing film would necessarily deteriorate, as taught in Ikemoto), this would not lead to a length of time (a) of 0.6 to 12 seconds, among others. On the contrary, Ikemoto does not provide any guidance in this respect, and Fig. 1 of Ikemoto suggests, if anything, that the PVA film is brought into contact with the first roll after a lapse of 1 minute 40 seconds or more, which is considerably more.

Further, the other cited references fail to remedy these deficiencies of Ikemoto. Therefore, the present claims are not obvious over Ikemoto taken alone or in any combination with the other cited references.

B. Applicant has submitted strong evidence of unexpected results

Further, it is submitted that the evidence made of record in this application clearly establish unexpected results commensurate with the present claims.

In particular, with respect to the Declaration under 37 C.F.R. 1.132 submitted with the last response, the following explanations are provided regarding the four main alleged questions raised in the Office Action.

1. Alleged lack of clear limit between and experimental results inside and outside claim scope

In the last paragraph at page 10 of the Office Action (bridging pages 10-11), it is alleged that examples 3, 5, and 6 have total times outside the claimed range but still yielded positive results.

Reconsideration and withdrawal of this objection is respectfully requested. In the Response filed March 14, 2008, claim 1 was amended to recite a total time of “63 to 120 seconds” instead of “63 to 130 seconds.” This error was overlooked until receipt of the Office Action dated July 10, 2009. By the present amendment, claim 1 has been amended to correct the error. Thus, examples 3, 5, 6 are within the claimed range, and the apparent inconsistency of the positive results is eliminated.

2. Alleged lack of a statement that experimental results are unexpected

In the second paragraph at page 10 of the Office Action, it is alleged that the Declaration is deficient because “the evidence has not explicitly stated that such an improvement is an unexpected improvement.”

The objection is respectfully traversed. The Declaration does state that there is a “remarkable difference in effects between the inside and the outside of the scope of the claims” (page 4, paragraph 11, last 2 lines) (referring to the improvement in display unevenness). Thus, the Declaration does support a finding of “synergism” as defined in MPEP 716.02(a)(I), and further, the Declaration does support a finding of unexpectedly improved results by the person of the art.

In addition, it is submitted that the synergism is immediate from a review of the experimental results, especially column “period (a)” and column “evaluation of display unevenness.” Therefore, it is submitted that the Declaration evidences synergism which would be immediately noted by the person of ordinary skill in the art even without the Declarant’s note of a “remarkable difference.”

Further, a supplemental Declaration under 37 C.F.R. 1.132 is submitted with this paper, in which Mr. Myiazaki (the Declarant of the April 20, 2009 Declaration) presents the experimental data in graph form and states that the improvements in display unevenness are unexpected, in particular in view of Ikemoto.

3. Alleged insufficiency in scope of experimental results

In the third paragraph at page 10 of the Office Action, it is alleged that the experimental results cover insufficient time ranges:

- Period (a): experimental results from 2 to 11 seconds, whereas claim 1 recites a range from 0.6 to 12 seconds (claim 33: 1.2 to 9 seconds),

- Period (b): experimental results from 35 to 110 seconds, whereas claim 1 recites a range from 13 to 120 seconds (claim 33: 20 to 120 seconds, claim 34: 33 to 120 seconds).

Reconsideration of this objection is respectfully requested. As explained in the Supplemental Declaration, the experiments were selected to provide examples throughout the claimed ranges, in a manner appropriate to convince a person of the art that the results are unexpectedly improved over the claimed ranges. The graph in the Supplemental Declaration show that the experiments were well-distributed over and around the relevant ranges.

In addition, it is submitted that the experimental results are at least equally convincing regarding the time ranges as recited in each of present claims 33-36.

In particular, with respect to claim 36, it is submitted the numerical limits of the time ranges for each of periods (a) and (b) have been direct subject of experiments reported in the specification and Declaration.

4. Conclusion in the Office Action as to “result effective variable” is rebutted

In the Office Action, it is alleged that evidence of obviousness is not rebutted. In particular, it is alleged that Ikemoto at paragraph 011 “explicitly teaches that time is a result effective variable” (Office Action page 11, last paragraph).

This objection is respectfully traversed. The showing of unexpected results relates in particular to the time period before the first roll. Paragraph 11 of Ikemoto is completely silent regarding this time period (a), but only establishes a vague connection between total dipping time and result of the swelling process, with an indication of a total dipping time of 4-6 minutes

as being “usually desirable.” There is no suggestion in Ikemoto that the time period before the first roll would be a relevant variable in the process, let alone guidance as to how to determine an optimum of such variable.

MPEP 2144.05(II)(B) defines “result-effective variable” as “a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.”

Here, Ikemoto does not teach or suggest any “recognized result” related to shortening the time before the first roll (as opposed to the total “dipping time” discussed in Ikemoto).

In summary, it is submitted that:

- Ikemoto does not provide a basis for prima facie obviousness, because Ikemoto does not teach or suggest the importance of the time up to when a PVA film is brought into contact with guide rolls placed in a swelling bath. Thus, even though Ikemoto mentions that excessive swelling is prevented to prevent the formation of wrinkles in a polarizing film, and that a treatment time in a swelling bath of 4 to 6 minutes is useful in this respect, Ikemoto is completely silent regarding an abrupt swelling of a PVA film after a lapse of 15 to 25 seconds, let alone linking a time up to contact with a first roll with deterioration of the final product, and let alone determining a range for the time up to contact with the first roll, among others;
- In addition, Ikemoto’s focus on excessive swelling over the total swelling time does not relate to the positions and numbers of guide rolls or the treatment time in relation with these rolls, but Ikemoto’s focus relates generally to the treatment

time in the swelling bath, which does not provide any motivation or incentive to consider the times in the swelling bath in connection with the rollers, and in particular a time up to contact with a first roll;

- The other cited references fail to remedy these deficiencies of Ikemoto;
- the Applicants have rebutted any prima facie obviousness by a showing of unexpected results commensurate with the scope of the present claims.

Accordingly, the present claims are not obvious over the cited references taken alone or in any combination.

In addition, with respect to the dependent claims, it is submitted that the cited references fail to teach or suggest the combined features of these respective claims. In particular, with respect to each of claims 33-36, there would have been no motivation or incentive to arrive at the features as recited in each of claims 33-36, and the Applicants have made a showing of unexpected results commensurate with the scope of each of claims 33-36. Therefore, each of the dependent claims, and in particular each of claims 33-36, is not obvious over the cited references taken alone or in any combination.

In view of the above, it is submitted that the rejections should be withdrawn.

Conclusion

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

Application No. **10/522,618**
Art Unit: **1792**

Amendment under 37 CFR §1.114
Attorney Docket No. **052009**

If there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

If this paper is not timely filed, Applicant(s) respectfully petition(s) for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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